Bonneville Power Administration
Fish and Wildlife Program FY 99 Proposal Form

Section 1. General administrative information

Enhance Umatilla River Basin Anadromous Fish Habitat

Bonneville project number, if an ongoing project 8710001

Business name of agency, institution or organization requesting funding

Confederated Tribes of the Umatilla Indian Reservation

Business acronym (if appropriate) CTUIR

Proposal contact person or principal investigator:

Name	Gary James
Mailing Address	P.O. Box 638
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Subcontractors.

Organization	Maili	City, ST Zip	Cont
Umatilla County Weed Control	3920 Westgate	Pendleton, OR 97801	Matt Voile
Earth Conservation Corps/ Salmon Corps at Umatilla	P.O. Box 638	Pendleton, OR 97801	Modesta Minthorn
Various Fence Construction Contractors hired through bidding process			
Various			

Heavy Equipment Contractors hired through bidding process			

NPPC Program Measure Number(s) which this project addresses.

7.6, 7.7, 7.8

NMFS Biological Opinion Number(s) which this project addresses.

Other planning document references.

Wy Kan Ush Me Wa Kush Wit - Volume 1, Hypothesis 3, **Watershed Restoration**, Habitat: Tributary, Problem Statement, second paragraph, pages 5B-12 and 5B-13 and Hypothesis, page 5B-13.

Wy Kan Ush Me Wa Kush Wit - Volume 2, Umatilla River, Recommended Actions For The Umatilla River, **III. Watershed Management**, page 44.

Umatilla River Drainage Anadromous Fish Habitat Improvement Implementation Plan, Fishery Characteristics - Limiting Factors, last paragraph of page 6 through page 9 and **APPENDIX B**, Riparian Habitat Inventory Summaries - by Subbasin and Stream

The Umatilla River Subbasin Salmon and Steelhead Production Plan, **Part II. HABITAT PROTECTION NEEDS**, **History and Status of Habitat**, pages 27 - 28.

Umatilla Basin Natural Production Monitoring and Evaluation Annual Progress Reports - Physical Habitat Survey Data and Biological Survey Data: 1992 - 1993, Appendixes D and E; 1993 - 1994, Appendixes D and E; 1995, Appendixes D and E; 1996 Appendixes B and D.

Subbasin.

Umatilla River Subbasin

Short description.

Increase natural production potential of existing summer steelhead

and re-introduced chinook salmon and coho salmon in the Umatilla River Basin.

Section 2. Key words

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
X	Anadromous fish		Construction	X	Watershed
	Resident fish		O & M		Biodiversity/genetics
	Wildlife		Production		Population dynamics
	Oceans/estuaries		Research		Ecosystems
	Climate		Monitoring/eval.		Flow/survival
	Other	X	Resource mgmt		Fish disease
			Planning/admin.		Supplementation
			Enforcement		Wildlife habitat en-
			Acquisitions		hancement/restoration

Other keywords.

habitat enhancement, habitat protection, land use impacts, restoration, Umatilla River Basin, project implementation, water quality, public scoping, education, private lands, monitoring, best management practices, coordination, riparian improvements, instream enhancements, bio-engineering, native vegetation, watershed analysis.

Section 3. Relationships to other Bonneville projects

Project #	Project title/description	Nature of relationship
9604600	Walla Walla Basin Habitat Enhancement	The Umatilla River Basin Anadromous Fish Habitat Enhancement Project shares personnel, vehicles and equipment with the Walla Walla and Grande Ronde Basin Habitat Enhancement Projects to minimize project expense.
5507000	Grande Ronde Basin Habitat Enhancement	

Section 4. Objectives, tasks and schedules

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1.	Implement and maintain instream and riparian habitat enhancement projects in the Umatilla River Basin.	a.	Pre-construction preparation.

		Sub-task a.1.	Assess maintenance needs for existing project fencing, bank stabilization structures and instream structures following annual high flow events.
		Sub-task a.2.	Prepare grant proposals and coordinate with other entities to develop cost-share agreements.
		Sub-task a.3	Develop riparian easements for proposed habitat enhancements on private lands.
		Sub-task a.4	Apply for and obtain instream fill and removal permits.
		Sub-task a.5	Conduct cultural/archeological surveys in proposed project areas (Section 106 compliance).
		Sub-task a.6	Complete project(s) design and layout(s).
		Sub-task a.7	Solicit bids and award subcontracts.
		b.	Implement and maintain habitat enhancement projects.
		Sub-task b.1	Place and/or repair in-stream structures and bank stabilization structures.
		Sub-task b.2	Place large woody debris in stream channels.
		Sub-task b.3	Construct and/or maintain riparian corridor fencing.
		Sub-task b.4	Plant native grasses, shrubs and trees in project areas.
		Sub-task b.5	Treat noxious weeds in project areas.
		c.	Conduct post-construction final review.
2.	Collect baseline data and continue post-project	a.	Conduct physical habitat surveys in proposed habitat enhancement

	monitoring to identify habitat limiting factors and to quantify short and long-term effects of habitat enhancement activities in the Umatilla River Basin.		project areas.
		b.	Establish permanent photo points and transects and continue to monitor after project implementation.
		c.	Sample aquatic macroinvertebrate populations.
		d.	Monitor water temperatures.
		e.	Monitor suspended sediments.
3.	Continue watershed planning, scoping and education processes by identifying problems and developing creative solutions to land use problems impacting fisheries habitat in the Umatilla River Basin.	a.	Conduct a watershed analysis (Washington State University will compile existing data, identify historical watershed conditions and current detrimental land use practices, create GIS data layers, and develop a guiding document to assist with subbasin prioritization of fisheries habitat needs).
		b.	Conduct outreach efforts at the local community level (public scoping meetings, school presentations, etc.).
		c.	Sponsor Ahands-on≅ watershed workshops, upland/riparian improvement clinics and provide habitat restoration/management tours.
		d.	Produce educational materials and distribute to the public.

Objective schedules and costs

Objective #	Start Date mm/yyyy	End Date mm/yyyy	Cost %
1.	2/99	1/2000	80%
2.	2/99	1/2000	8%
3.	2/99	1/2000	12%

Schedule constraints.

Possible constraints might include delays due to extensive landowner negotiations and a slow response time from the regulatory agencies regarding issuance of permits for proposed in-stream work.

Completion date.

N/A - on-going project

Section 5. Budget

FY 99 budget by line item

Item	Note	FY 99
Personnel	Includes 1 month salary for GIS services and 1 month salary for cultural/archeological surveys (Section 106 compliance)	$79,081
Fringe benefits	28 percent of personnel services	$22,143
Supplies, materials, non-expendable property		$62,128
Operations & maintenance	Operations & maintenance funding (to maintain over 13 stream miles of habitat) includes approximately 50% of personnel, fringe benefits, supplies, materials, non-expendable property, travel, indirect costs and subcontract funds as indicated in right column.	
Capital acquisitions or improvements (e.g. land, buildings, major equip.)	N/A	
PIT tags	# of tags: N/A	
Travel		$17,143
Indirect costs	34 percent of personnel, fringe benefits, supplies, materials, non-expendable property and travel	$55,755
Subcontracts	Heavy equipment rental, fence construction, noxious weed control, bio-engineering treatments (Salmon Corps) and Washington State University watershed analysis	$58,750
TOTAL		$295,000

Outyear costs

Outyear costs	FY2000	FY2001	FY2002	FY2003
Total budget	$305,000	$315,000	$325,000	$335,000

O&M as % of total	50%	40%	40%	40%

Section 6. Abstract

a. Funds are being sought to identify watershed deficiencies, prioritize habitat needs, offer public education, implement and maintain fisheries habitat enhancement projects and monitor habitat conditions in the Umatilla River Basin.

b. The goal is to protect and enhance habitat for improved natural production of anadromous fish in the Umatilla River Basin. Objectives include watershed planning, public scoping and education processes, implementation and maintenance of habitat enhancement projects, and monitoring habitat conditions.

c. This project is consistent with NPPC Measure Numbers 7.6, 7.7 and 7.8. The project entails coordinated, cooperative efforts to protect and improve anadromous fisheries habitat on a comprehensive watershed management basis. Improved habitat quality will allow greater juvenile and adult freshwater survival and result in greater offspring out-migration survival.

d. The CTUIR have undertaken a watershed scale approach to identifying land uses that are damaging to ecosystems or detrimental to riparian habitat recovery. Rather than focusing solely on in-channel modifications, the Tribes have utilized natural recovery to preserve and restore stream habitat. Bio-engineering approaches have been reserved for areas that will not sufficiently recover in a natural manner.

e. Short-term (three to five years) project effects include native plant recovery, increased streambank stability and increased macroinvertebrate populations and diversity.

Long-term (25 to 100 years) project effects include changes in hydrological features, vegetation succession, channel narrowing, increased channel shading, improved water quality, increased wood recruitment and increased habitat.

f. Monitoring includes:

- stream channel transects
- photo points
- physical surveys
- macroinvertebrate surveys
- stream temperatures
- suspended sediments.

Results will be evaluated in annual reports submitted to BPA.

Section 7. Project description

a. Technical and/or scientific background.

The Umatilla River Basin Anadromous Fish Habitat Enhancement Project was developed in 1988 to address in-stream and riparian habitat deficiencies on private lands within Umatilla Indian Reservation Boundaries. This project is partially funded under the Northwest Power Planning Council's Columbia River Basin Fish and Wildlife Program (Sections 7.6 - 7.8) as partial mitigation for hydroelectric dam construction and the subsequent losses of anadromous fish throughout the Columbia River Basin. The goal of this project is to enhance natural production of existing summer steelhead and re-introduced chinook and coho salmon in the Umatilla River Basin.

The Umatilla Drainage Fish Habitat Improvement Implementation Plan (ODFW, USFS and CTUIR, 1988) was the project's initial guiding document. This plan identified approximately 66.9 stream miles of anadromous fisheries habitat in the Umatilla River Basin requiring restoration or protection measures. All areas identified are higher quality watersheds supporting some level of anadromous fish populations at various life stages, supporting functional ecosystems, containing large continuous blocks of critical habitat and are the most cost effective drainages in which to implement habitat improvements. The Umatilla Drainage Fish Habitat Implementation Plan recommended that CTUIR implement improvements on eighteen miles of the 66.9 miles of stream habitat identified as deficient over a five year period. To date, the CTUIR have utilized BPA and BIA funds to address limiting factors in eight stream miles of the previously identified private lands. An additional seven miles of stream habitat, identified within the Squaw Creek Watershed, is currently in the process of being acquired with BPA Monies. The CTUIR is negotiating riparian easements with landowners in the Buckaroo Creek Watershed at

this time to address the remaining three miles of deficient habitat.

In 1993, the project shifted emphasis to a comprehensive watershed approach and began to identify upland and riparian watershed-wide causative factors impacting fisheries habitat and natural production capabilities throughout the Umatilla River Watershed. Scoping meetings were conducted to encourage public involvement, assist in identifying detrimental land use practices and to cooperatively develop long-term solutions to improving practices impacting fisheries habitat. Basin-wide physical surveys began to be conducted in coordination with the CTUIR Umatilla Basin Natural Production and Evaluation Project and with ODFW. GIS data base development began for past and present land use practices, ecotypes and habitat inventory data in subwatersheds of concern.
In 1994, the Nonpoint Sources of Water Pollution Assessment and Management Program Plan was completed for the Umatilla River Basin (CTUIR, 1994). This document identifies nonpoint source pollution problems in subwatersheds throughout the basin and prioritizes watershed areas for nonpoint source pollution control work. The plan has been used to assist with development of Oregon Department of Environmental Quality's **303(d) List** of water quality limited water bodies and to establish Total Maximum Daily Loads (TMDL's) within the Umatilla Basin in accordance with the **303(d) List**. The project has relied heavily upon the plan and data obtained from the Umatilla Basin TMDL Technical Committee to assist with prioritization of additional habitat enhancement efforts in the basin.

The project has secured a total of 34 riparian easements for enhancement of 13.5 river miles of tributary and mainstem habitat on private lands in the upper Umatilla River Basin since initial 1988 implementation efforts. Rather than focusing solely on traditional in-channel modifications, the Tribes have utilized ecological restoration (natural recovery) and native plant revegetation efforts to preserve and restore stream habitat. Bio-engineering approaches have been reserved for areas that will not sufficiently recover in a natural manner. The CTUIR Native Plant Nursery opened in 1996 and has been instrumental in providing the project with previously unavailable subbasin specific indigenous plant materials (alleviating concerns about gene pool contamination of existing plant communities). Habitat enhancement projects have been funded with a combination of BPA, BIA and USF&WS dollars.

It is critical that project efforts continue throughout the watershed. Land use practices impacting water quality and limiting available habitat and natural fisheries production capabilities continue to be identified and need to be addressed. The CTUIR and BPA also have an obligation to landowners to maintain projects previously implemented on their properties. The CTUIR wish to continue coordination with Washington State University to complete a Umatilla River Basin Watershed Analysis during the 1999 project period. Information obtained from this study will further assist the project in prioritization of fisheries habitat needs and streamlining of funds spent. The project will continue to coordinate closely with the Umatilla Basin Watershed Council, resource agencies and the public to identify and address habitat concerns. The project is gaining momentum with more landowner partnerships being developed as more completed projects are showing positive results.

b. Proposal objectives.

Objective 1. Implement and maintain existing instream and riparian habitat enhancement projects in the Umatilla River Basin.

Products derived from Objective 1.:

(1) Anticipate three to five, fifteen-year riparian easements with private landowners in the upper Umatilla River Watershed.

(2) Cost-share funds - anticipate procurement of $39,523 in CTUIR Funds for salary, fringe benefits and overhead; anticipate $20,000 to $25,000 in funds and in-kind services from Washington State University for watershed assessment; anticipate $10,000 to $15,000 in U.S. Fish and Wildlife Service - Partners for Wildlife Grant Dollars for new project implementation. A trust fund has also been established between the Union Pacific Railroad, CTUIR, and ODFW to provide habitat enhancement match funds.

(3) Renewal of in-stream fill and removal permits for anticipated in-stream work.

(4) Pedestrian surveys will be conducted and reported by CTUIR Cultural Resources Staff in proposed project areas (Section 106 compliance).

(5) Noxious weed control, tree planting, operated heavy equipment rental and fence construction contracts will be developed.

(6) Maintain rock check dams in Wildhorse Creek, Spring Hollow Creek and Greasewood Creek.

(7) Construct high tensile fencing in new project areas.

(8) Seed native grasses and plant indigenous trees and shrubs in project areas.

(9) Treat noxious weeds in project areas.

Objective 2. Collect baseline data and continue post-project monitoring to identify habitat limiting factors and to quantify short and long-term effects of habitat enhancement activities in the Umatilla River Basin.

Products derived from Objective 2.:

(1) Establish photo points and stream channel transects (number unknown at this time).

(2) Aquatic macroinvertebrate populations will be sampled in project areas

and sent to the USFS Aquatic Ecosystem Analysis Lab for identification and analysis; a report of the lab's findings will be produced.

(3) Thermographs will be deployed at seventeen sites in the basin during warm summer months; stream temperature data will be compiled in tabular form; maximum, minimum and average stream temperatures will be graphed and included in the BPA Annual Report.

(4) Suspended sediments will be monitored at three sites in the upper basin; data will be graphed and included in the BPA Annual Report.

Objective 3. **Continue watershed planning, scoping and education processes by identifying problems and developing creative solutions to land use problems impacting fisheries habitat in the Umatilla River Basin.**

Products derived from Objective 3.:

(1) Conduct a watershed analysis (Washington State University will compile existing data, identify historical watershed conditions and current detrimental land use practices, create GIS data layers, and develop a guiding document to assist with subbasin prioritization of fisheries habitat needs).

(2) Public scoping meetings will be provided in Umatilla Basin Subwatersheds (number unknown at this time).

(3) CTUIR will provide project information to the public at various workshop school sessions, sportsman shows, etc. (number unknown at this time)

(4) Public education materials - photo displays, pamphlets, etc. will continue to be produced as needed.

c. Rationale and significance to Regional Programs.

The project is consistent with the Northwest Power Planning Council's Columbia River Basin Fish and Wildlife Program, Sections 7.6 - 7.8. This habitat project is one element in the comprehensive Umatilla Program, which also includes artificial production, adult and juvenile passage improvements (ladders, screens, and trap and haul), instream flow enhancement, and monitoring and evaluation.

Habitat enhancements implemented under this project will continue to result in the following benefits: 1) increased water table saturation zones and instream flow levels during summer months, 2) slower water velocities and narrower stream channels, 3) more diverse native riparian vegetation communities to assist with bank stabilization, provide recruitable wood for instream cover, increase shading, increase insect drop and filter sediments. These combined benefits will

aide anadromous salmonids by improving overall water quality, increasing and diversifying fisheries habitat and increasing potential food sources (macroinvertebrates).

Emphasis on watershed-wide habitat is needed for protection and enhancement of natural production capabilities in the basin. The project represents a continuation of existing efforts to improve natural production in the Umatilla River Basin. The project will benefit multiple anadromous species and life history stages (chinook, coho, and steelhead spawning, incubation and rearing). Habitat enhancements will also benefit resident fish (rainbow and bull trout) and wildlife. The project will continue to provide critical elements to a comprehensive watershed management approach to help guide implementing agencies and the Tribes in promoting anadromous fish rebuilding plans, and recommend necessary changes to management systems. The project will provide an integrated and comprehensive information base. The project will continue to complement ongoing fish passage and artificial production programs already in place in the basin and will integrate existing on-the-ground management systems and programs on private and public lands with restoration activities to better justify expenditure of funds and time. Coordination will continue between Tribal, local, state and federal agencies and the agricultural community.

d. Project history

Since 1989, Annual Reports have provided information on project implementation, water quality and aquatic macroinvertebrate monitoring, physical survey data and public input/comments. Quarterly reports provide a continuous update on completed and proposed project activities.

Accomplishments - Implementation	#
-Riparian Easements secured	34
-Stream Miles Enhanced	13.5
-Riparian Enclosure Fencing (miles)	19
-Native Trees/Shrubs Planted	32,250
-Native Grasses Seeded (lbs.)	3,950
-Trees/Root Wads placed In-Stream	343
-Tree Bank Revetments	55
-Sediment Retention Structures (rock check dams)	95
-Log & Boulder Weirs	11
-Log & Boulder Deflectors	35
-Cultural Resource Inventories	8

Accomplishments - Monitoring	Years
-Photo Point Data (77 sites)	1988-1997
-Stream Channel Cross-Section Data (86 sites)	1988-1997
-Macroinvertebrate Data (2 reports - 36 samples)	1996-1997
-Stream Temperature Data (17 sites)	1989-1997

-Suspended Sediment Data (3 sites) 1989-1997

Accomplishments - Education	#
-Bio-engineering Workshop (2)	335 participants
-Public Scoping Meetings	5
-Presentations, coordination, etc.	numerous

e. Methods.

7.e.1. (1) Riparian easements are developed in-house by CTUIR Fisheries Staff and Tribal Attorneys. Riparian corridor widths, length of agreement, number of livestock watering gaps and other terms are coordinated with the landowner(s).

(2) Cost-share funds are generally secured by CTUIR completing grants applications (USFWS, GWEB, etc.) and competing with other grant applicants. CTUIR and Washington State University funds will most likely be secured.

(3) U.S. Army Corps of Engineers, Oregon Division of State Lands and CTUIR fill and removal permits are applied for and renewed in compliance with section 401 and 404 of the Clean Water Act. All in-stream work is implemented during the designated in-stream work window (when migrating and spawning salmonids are least likely to be impacted.)

(4) CTUIR=s Cultural Resource staff conduct file and literature searches, pedestrian surveys and/or archeological excavations in proposed habitat enhancement areas to determine if cultural resources potentially eligible for inclusion to the National Register of Historic Places are present on the site. Final reports documenting their findings are prepared and submitted to the BIA Umatilla Agency Real Property Management Office (for implementation efforts on the Reservation) and to the State Historic Preservation Office (for implementation efforts, both on and off the Reservation.) All cultural clearances are obtained in compliance with Section 106 of the National Historic Preservation Act.

(5) Letters are mailed to perspective contractors, and they are encouraged to participate in pre-bid tours and submit bids. Notices to proceed are issued to the selected contractor (s).

(6) Sediment retention structures (rock check dams) previously placed in stream channels are maintained with additional rock and an excavator as needed. Structures were designed by Umatilla National Forest Service Personnel. These structures have a relatively low failure rate. Rock sometimes shifts in structures. CTUIR has avoided large rock (over 20-inches) due to concerns with head-wall cutting.

(7) Five-stranded smooth-wire high tensile fence is constructed to ODFW=s specifications. This fence requires extremely low maintenance if wider corridors are secured. In eight years, CTUIR has lost only 1,429 yards of fence (during a 1996 100 - year flood event.)

(8) Native grass mixes have been developed by Grassland West Seed Company based on historical vegetation, soil types and project elevation. Grasses are seeded with

a harrow or broadcast seeder. Indigenous trees and shrubs are planted as cuttings or bareroot stock. Bareroot trees are subbasin specific trees produced from seed or cuttings at the CTUIR Native Plant Nursery. Native grass re-establishment has been 50% or greater. Tree mortality has dropped dramatically with the use of trees obtained from the Tribal nursery. Tree survival is nearly 75%.

(9) Noxious weeds in project areas are chemically treated three times a year by Umatilla County Weed Control. Only level one noxious weeds on the Umatilla County Noxious Weed List are treated. Non-noxious untreated weeds in the Wildhorse Creek Project Area (approximately two stream miles) are currently competing with native revegetation efforts. CTUIR Project Personnel intend to use controlled burning to maintain these areas.

2. (1) Photo points are taken with a 35 mm camera and a standard 50 mm lens. Photos are taken facing upstream in the spring and fall of each year. A photo point binder containing 35 mm slides of riparian recovery is maintained at the CTUIR Fisheries Office. Photo points generally indicate an upward trend in vegetative recovery, streambank stability and cover. All project areas are currently demonstrating early recovery. Recovery in the Meacham Creek and Umatilla River project areas was temporarily suspending due to the effects of two major 1996 flood events.

(2) Aquatic macroinvertebrates are sampled in early summer and early fall of each year. Sampling methodology developed by the U.S. Forest Service - Intermountain Region Wildlife Management is utilized to sample macroinvertebrates. Methods are described in detail in Chapter 5 of the Fisheries Habitat Surveys Handbook (publication #R-4 F5H 2609.23. Macroinvertebrate samples and field support data are sent to Dr. Fred Magnum at the U.S. Forest Service Aquatic Ecosystem Lab in Provo, Utah for identification and analysis. Surveys have only been conducted for the past two years, but information obtained to date has been useful in assisting with determination of water quality and habitat conditions.

(3) Summer stream temperatures are monitored with Ryan Tempmentors and Ryan 2000 thermographs at 17 sites. Thermographs collect maximum, minimum and average temperature readings each hours.

(4) Three Isco Model 2700 Wastewater samplers are deployed at gage stations to obtain estimates of suspended sediments. Samples are collected year-round at six hour intervals to create a composite daily sample. The samples are processed monthly by Umatilla National Forest Service personnel to determine Jackson turbidity units, conductivity and total dissolved solids.

3. (1) A watershed analysis will continue to be conducted by Washington State University staff and graduate students. Existing information will be compiled, historical watershed conditions and current land use practices determined, GIS data layers created, and a guiding document developed to assist with subbasin prioritization of fisheries habitat needs.

(2) Letters are mailed to landowners in subbasins of interest (names and addresses obtained from county tax lot records) inviting them to participate in public scoping meetings. Landowner concerns and recommendations are compiled and

mailed to them in newsletters. Landowner input is taken into account when developing projects. Resource agencies, interest groups, etc. are also invited and provide additional input at meetings.

(3) CTUIR provides watershed/habitat slide shows, tours, etc. to students, sportsman groups and others.

(4) CTUIR continues to develop watershed restoration/habitat enhancement photo displays for public viewing and reproduce handouts and pamphlets for public distribution.

f. Facilities and equipment.

Specialized equipment required to implement specific habitat enhancements are specified under construction contract agreements with subcontractors. Project leader has already purchased a desk top computer under this project to perform duties associated with project statement of work. Project has purchased appropriate field equipment to perform hand work (i.e. planting, seeding, cabling logs, etc.)

g. References.

CRITFC - 1995. Wy-Kan-Ush-Mi-Wa-Kish-Wit Spirit of the Salmon. Columbia River Anadromous Fish Plan of the Nez Perce, Umatilla, Warm Springs and Yakama Tribes.

CTUIR. 1994. Non-point Sources of Water Pollution Assessment and Management Plan. EPA Region 10 Publication, Seattle, WA. page 37p

NPPC (Northwest Power Planning Council). 1990. Columbia Basin System Planning - Salmon and Steelhead Production Plan for the Umatilla Basin. NPPC Portland, OR 158p.

ODFW, USDA Forest Service, CTUIR. 1988. Umatilla Drainage Fish Habitat Improvement Implementation Plan. page 32p

Section 8. Relationships to other projects

The restoration of fisheries resources in the Umatilla Basin has been a coordinated effort between Tribal, local, state and federal agencies and the agricultural community. CTUIR=s cooperators include Umatilla County, ODFW, NRCS, USFWS, the Umatilla Basin Watershed Council and numerous landowners. Examples of project cooperation include the Umatilla Basin Project, the Umatilla River Subbasin Salmon and Steelhead Production Plan, the Umatilla Basin Anadromous Fish Habitat Enhancement Project and the Umatilla Hatchery and associated artificial production plans. This coordination has continued and expanded through public scoping meetings formed to identify issues and develop creative solutions to land use problems in the basin. CTUIR intends to continue these coordination efforts.

Opportunities for cooperation through cost sharing has also been emphasized in the Umatilla Basin. Entities providing funding for stream/watershed habitat enhancement include BPA, CTUIR, Union Pacific Railroad (UPRR), EPA, and USFWS.

Close cooperation is maintained between the various entities (CTUIR, ODFW, County, NRCS) implementing habitat protection and enhancement actions to facilitate sharing of equipment, techniques, successes and failures. Project implementors also collaborate with DSL, U.S. Army COE, and Tribal fill and removal permitting processes in order to accomplish work.

Section 9. Key personnel

Name: Gary A. James
Title: Fisheries Program Manager
Months funded this project: 1
Education: BS Fisheries 1979 Oregon State University
Experience: 20 years fisheries experience; last 15 years CTUIR Program Manager; expertise in multi-project development, coordination, and oversight.

Name: Todd Shaw
Title: Fisheries Habitat Biologist
Months funded this project: 5
Education: BS Fisheries & Wildlife Management 1988 Lake Superior State University; A.A.S. Recreation & Wildlife Management 1983, Hocking Technical College.
Experience: 10 years - 6.5 years Habitat Biologist

Name: Ken Hall
Title: Fisheries Technician
Months funded this project: 5
Education: High School Diploma; 1 year Oregon University
Experience: 10.5 years of habitat protection and restoration work; experience in coordinating and implementing on-ground projects pertaining to riparian protection.

Section 10. Information/technology transfer

Project reports of accomplishments are produced quarterly and annually. Project personnel sponsor field tours at any time requested to show accomplishments, challenges, and techniques. Project personnel also frequently participate in local public forums (workshops, classrooms, clubs, etc.).

All entities involved in stream habitat alterations (proponents and permitting agencies) conduct pre and post-implementation tours annually to discuss project needs/recommendations and project successes/failures.